

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 **Claim 1 (original):** Twin-nozzle print head (30,30')
2 for a continuous inkjet deflection printer, the print head
3 (30,30') comprising:
4 - an ink drop generator assembly (116,116') having
5 two inkjet ejection nozzles (31,32), each of the nozzles
6 having an axis, and arranged along this axis,
7 - charge electrodes (120,120'),
8 - first (2,2') and second (3,3') deflection
9 electrodes deflecting charged drops, these deflection
10 electrodes (2,2'; 3,3') each having relative to jet
11 ejection nozzles (31,32) an upstream part (15) and a
12 downstream part (16), an active surface (11,10) of each
13 deflection electrode (2,3) being a surface of said
14 electrode (2,2'; 3,3') lying opposite a succession of
15 drops,
16 - a single ink drop recovery gutter (6) for both
17 nozzles (31,32),
18 characterized in that the axes of nozzles (31,32)
19 converge at a point located on an axis of a single inlet
20 orifice (61) of the single recovery gutter (6) in the
21 vicinity of this orifice (61) or upstream of this gutter
22 (6).

1 **Claim 2 (original):** Twin-nozzle print head (30,30')
2 as in claim 1, characterized in that it has a plane of
3 symmetry which is a plane perpendicular to a plane defined
4 by the converging axes of jet ejection nozzles (31,32) and
5 containing a bisector of the angle formed between said
6 converging axes of ink jet ejection nozzles (31,32).

1 **Claim 3 (original):** Twin-nozzle print head (30,30')
2 as in claim 1, characterized in that the first deflection
3 electrode (2,2') deflecting charged drops is a first
4 electrode (2) common to the drops derived from ink jet
5 ejection nozzles (31,32), this common deflection electrode
6 (2) for charged drops being located between the second
7 deflection electrodes (3,3') for charged drops.

1 **Claim 4 (original):** Twin-nozzle print head (30,30')
2 as in claim 2, characterized in that the first deflection
3 electrode (2,2') deflecting charged drops is a first
4 electrode (2) common to the drops derived from ink jet
5 ejection nozzles (31,32), this common deflection electrode
6 (2) for charged drops being located between the second
7 deflection electrodes (3,3') for charged drops.

1 **Claim 5 (currently amended):** Twin-nozzle print head
2 (30,30') as in ~~any of claims 1 to 4~~ claim 1, characterized

3 in that the active surface (11) of the first deflection
4 electrode (2) deflecting drops from a jet has a first
5 concave longitudinal curvature whose local radius of
6 longitudinal curvature is located in the plane formed by
7 the converging axes of inkjet ejection nozzles (31,32), in
8 that the active surface (10) of the second deflection
9 electrode (3) deflecting drops from said same jet has a
10 first convex longitudinal curvature, and in that the first
11 deflection electrode (2) deflecting drops from said jet, in
12 its downstream part (16), has a recess (12) having a
13 contour (38).

1 **Claim 6 (original):** Print head (30,30') as in claim
2 5, characterized in that contour (38) has a most upstream
3 point located in the vicinity of the intersection before
4 recess of said first deflection electrode (2) deflecting
5 said jet, with the axis of said ejection nozzle (31,32) of
6 said inkjet.

1 **Claim 7 (currently amended):** Print head (30,30') as
2 ~~in either of claims 5 or 6~~ claim 5, characterized in that
3 the recess (12) has symmetry relative to the plane defined
4 by the converging axes of inkjet ejection nozzles (31,32).

1 **Claim 8 (currently amended):** Print head (30,30') as
2 ~~in any of claims 5 to 7~~ claim 5, characterized in that the

3 width of recess (12) ranges between two and 10 times the
4 diameter of the ink drops.

1 Claim 9 (currently amended): Print head (30,30') as
2 in ~~any of claims 5 to 8~~ claim 5, characterized in that the
3 recess (12) is in the form of an oblong slit of which one
4 opening leads to a part (22) which is the most downstream
5 of first electrode (2).

1 Claim 10 (currently amended): Print head (30,30') as
2 in ~~any of claims 5 to 9~~ claim 5, characterized in that the
3 space between the active surfaces (10,11) of deflection
4 electrodes (3,2) deflecting a jet derived from a nozzle
5 (31,32) is substantially constant from upstream to
6 downstream of the electrodes and lies between 4 and 20
7 times the diameter of the ink drops.

1 Claim 11 (currently amended): Print head (30,30') as
2 in ~~any of claims 1 to 10~~ claim 1, characterized in that one
3 edge (22) the most downstream of a first deflection
4 electrode (2) is more downstream than a surface (21) that
5 is most downstream of recovery gutter (6).

1 Claim 12 (currently amended): Print head (30,30') as
2 in ~~any of claims 5 to 11~~ claim 5, characterized in that the
3 second deflection electrode (3) deflecting an inkjet has a

4 groove (14) along an axis contained in the plane defined by
5 the converging axes of nozzles (31,32).

1 **Claim 13 (original):** Print head (30,30') as in claim
2 12, characterized in that a bottom of groove (14) is joined
3 to the active surface (10) of said second electrode (3) via
4 a surface curved transversely along curve radii of greater
5 value than the radius of the ink drops.

1 **Claim 14 (currently amended):** Print head (30,30') as
2 in ~~any of claims 5 to 13~~ claim 5, characterized in that
3 tongues (24,25) of said first jet deflection electrode
4 formed either side of recess (12) and second deflection
5 electrode (3) deflecting the same jet are curved
6 transversely along curve radii of greater value than the
7 radius of the ink drops.

1 **Claim 15 (currently amended):** Print head (30,30') as
2 in ~~any of claims 5 to 14~~ claim 5, characterized in that the
3 nozzles (31,32) have different diameters.

1 **Claim 16 (currently amended):** Print head (30,30') as
2 in ~~any of claims 5 to 15~~ claim 5, characterized in that
3 orifice (61) of gutter (6) is of oblong shape.

1 **Claim 17 (original):** Printer characterized in that it

Appl. No. TBD
Preliminary Amdt. Dated July 2, 2004
Reply to Office action of N/A

2 is equipped with a print head according to any of the
3 preceding claims.